**Action Research: Implementation and Assessment for Restoration-Based Environmental Education**

UW-Madison Arboretum

Dept of Curriculum and Instruction

Spring/Summer 2012

**Reflective Journal Worksheet & Assignments**

**Your Name: Lynessa Reis**

**Due by January 30 by 9 a.m.**

What are you interested in researching? Is there an issue you want to address in your classroom or school? What are your assumptions and expectations about your issues? What do you already know about the topic? What are some of your concerns about doing an action research project?

In the Land and Water Einstein kit that I teach, we study the water cycle, erosion, parts of the stream and many other affects that water and land have on each other. I would like to research some new ways to teach these concepts in a more exciting way. I would also like to link this to the Nature Center in the back of Denmark Elementary. My expectation is that I would be able to create hands on lessons for my students. I would also like to share these activities with my fourth grade team so that the whole fourth grade can experience these enriching activities. I believe land and water issues are extremely important for not only adults, but all people to be aware of. I believe fourth graders can start to take some responsibility for their water usage and environmental awareness. Some of my concerns about this research project are making sure that I can fit them into the existing curriculum and make it truly engaging for students.

Instructor Response:

This sounds like a wonderful research project! The EPS stormwater and rain garden curriculum may have activities you can adapt. Let Cheryl and I know if you need a copy of these. You may want to consider doing pre and post tests (a few questions prior to and after the activity) to assess students learning attitudes and knowledge. Or document or collect student work and assess it.

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**Due February 13 by 9 a.m.**

Describe what you would like to research or explore for your action research project. What are you curious about? What issue do you want to address?

I would like to research some effective ways to teach the water cycle. The unit will be very hands on and require the students to then create some product at the end to show their knowledge of the water cycle. I would like to take my students out into the Nature Center to see the water cycle at work either with the pond or after a hard rain. I have many great visuals but I think the kids would benefit from being outside and making their own observations and conclusions. Within the unit, I also plan to touch on storm water and the affects it may have. I believe the students will relate because many live on or by farms. I am curious about how I can get my fourth graders to make a difference in the community of Denmark with this project. They are an inspired group who would love to do something “big,” however I am not sure what yet. My goal for this unit is to really make the students aware of issues that go along with all types of runoff and what we can do, they can do, and other agencies are already doing to help the problem. I want the kids to be able to apply science to their everyday lives. Along with my passion for teaching the water cycle, I am also thinking about having the students document the history of the Nature Center. Through this project, students will learn the affects that humans can have on land and water. It is important for them to understand every choice we make affects nature in some way.

Instructor Response:

Sounds great. Are there specific activities you would like to try? We also like the idea of the students researching and writing up the history of the Nature Center. Their work may lead to some ideas for future uses for the site.

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**Due February 27 by 9 a.m.**

What is your Problem Statement ?

      Who is affected?

      Who or what is suspected of causing the problem?

      What kind of problem is it?

      What is the goal for improvement?

      What do you propose to do about it?

My research questions is:

Do additional hands on activities about the water cycle improve the students’ abilities to understand the imperative relationship between land and water?

Through this action research, my fourth graders will be affected. I believe students have a hard time knowing that land and water have such a close knit relationship because it is such a big issue. I don’t believe kids see how their actions affect land and water. This problem is a lack of awareness of the human footprint. My goal is to make my students aware of how just one person can make a difference and to challenge them to make some positive changes with their use of water. I plan to implement this by using the curriculum from my summer class, bringing in a speaker from the UW-Extension and through observation in the Nature Center students will create an awareness and brainstorm some actions that they are their families can do to make a positive change.

Instructor Response:

Nice job! Sounds like you have some good ideas lined up. Are you thinking of doing a pre & post “test” to assess changes in attitudes and knowledge?

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**Due by March 12 by 9 a.m.**

List at least 3 (or more) peer reviewed journal articles on topics related to the problem that you have found (use APA format; see APA Formatting and Style Guide at http://owl.english.purdue.edu/owl/resource/560/01/).

What do you find to be helpful or useful from the articles you found? What’s interesting?

Weilbacher, M. (2009, May). “The Window into Green.” *Educational Leadership,* 38-44.

I found the sidebar titled “What Every Student Should Know About the Environment”, to be very informative. The third and ninth key points are the ones that I am really concentrating on- The web of life is interdependent and humans can have a profound effect on environmental systems. I agree with the article in the fact that students are in many cases ”extraordinally disconnected from the environment.”

Louv, R. (2009, December). “Do Our Kids Have Nature-Deficit Disorder?” *Educational Leadership,* 24-30.

I found this article interesting because of the research showing that nature has not only an impact on student learning, but also student health. I also found the suggestions to get nature to our children to be intriguing.

DonLevy, K. “Freshwater 101.” Earth Partnerships for Schools. Madison, WI: University of Wisconsin –Madison Arboretum.

I found this resource to be of use because of the many great resources that I could implement into my land and water science kit. My students do not know what a watershed is so this resource has great instructional plans to increase student awareness.

Instructor Response:

We are glad the Freshwater 101 is useful for you! You may want to do a pre-post test with your students on the definition of a watershed and its functions. The Window into Green article also sounds interesting.

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**Due by March 26 by 9 a.m.**

Write a draft introductory paragraph that includes where the research is taking place, who and/or what is being researched, and what concern or problem is being addressed

Denmark Elementary School is one of two elementary schools in Denmark, however is the only public elementary school. Denmark is located about ten miles from Green Bay, Wisconsin. This small, rural community has about 2,000 people. The elementary school has about 500 students from various neighboring communities. The action research question being addressed is, do additional hands on activities about the water cycle improve the students’ abilities to understand the imperative relationship between land and water? The people who will be affected through this project are the fourth grade students and teachers. The concern that is being addressed through this research is that water awareness is very limited among the students in Denmark.

Fill out your Data Collection Plan. Include at least 3 data sources.

|  |  |  |
| --- | --- | --- |
| **Research Question** | **Instrument** | **Type of Strategy**  **(Artifacts, Observational Data, or Inquiry Data)** |
| Do additional hands on activities about the water cycle improve the students’ abilities to understand the imperative relationship between land and water? | Pre and post assessment | Artifacts |
| Student work samples/ interviews | Inquiry Data |
| Photographs | Observational Data |

Instructor Response:

Good job with both your introductory paragraph and data collection plan. Succinct and to the point!

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**All data collection instruments are due by April 12**

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**Due by April 16 by 9 a.m.**

What are some challenges that are emerging about the data collection instruments or process, or overall project? Any ideas about how to address those challenges?

Some problems that I have been running into are fitting all of this extra stuff in. I am wondering if I would be able to replace some of my existing curriculum with what I want to teach the water cycle with because it is more motivational for the kids. The material will also stick with them because they are interested with the “extra” activities. Overall, the process is going smoothly- it’s the time that I do not have enough of…

Instructor Response:

Your data collection instruments looked great. Maybe you can talk about how to scale down if needed or integrate some of the project with Matt in tonight’s class or in your small group.

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**Due by April 30 by 9 a.m.**

What other potential action research projects/questions are emerging? What are some other questions that are coming up for you based on your research? What would you want to research next? What are some of your next action steps at your school?

Some other ideas that are coming out of this action research question are questions about integrating technology into science as well as other subject areas. Hands on science is motivating to students however, if I could add a technology pieces, these kids wouldn’t know what to do! I’m not really sure what my question would be however know that technology would be the way I would go.

Instructor Response:

Intriguing question about integrating technology that both you and Angela are asking! Right now, the way EPS activities integrates technology is using Google maps to understand watersheds, Participatory Photo Mapping using digital cameras, and an activity on how to use GPS. These activities will be in the new Great Lakes curriculum.

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**Due May 14 by 9 a.m.**

How has this practice befitted your teaching? Describe what went well, what went poorly, or what was a surprise to you during the action research process, separate from the topic. Have you encountered any personal changes, insights, inconsistencies in practice, struggles, or new ideas for future research during this experience? What would you do differently? What would you do the same?

By completing an action research project, I have found myself asking more questions about my teaching. I find myself checking the effectiveness of the material and the way that it is presented. The downside is the time that it takes to go through the process. I have definitely changed my plans for my land and water unit. I have also changed the ways that I look at using the Nature Center is my entire curriculum. I find myself thinking of ideas to teach math and reading in the Nature Center as well. I think this class has changed my thought process of incorporating the outdoors into education as much as possible. Those kinesthetic learners are not only asking for it, but need it!

Instructor Response:

Seems like you have found some interesting ways to incorporate hands-on learning, outdoor education, and the nature center into your curriculum. We are delighted you are thinking about ways to use the Nature Center more! Good Luck!

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**Assignment: Class Presentations due on May 14 & May 21**

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**Assignment: Final Reports due & Draft Presentations for EPS Institutes due by May 23**

Use APA format. See APA Formatting and Style Guide at http://owl.english.purdue.edu/owl/resource/560/01/

Use the Action Research Rubric for guidelines on the report content

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